

PATENT SPECIFICATION

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(54) PILLAR MOULDING

(71) We, SPANDEX PLASTICS LIMITED, a British Company, of Ashley House, 18—20 George Street, Richmond, London, TW9 1PR, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to moulds for casting concrete blocks and in particular, but not exclusively, for casting blocks which can be assembled to form pillars.

Broadly speaking the invention provides a two-part mould for casting concrete blocks, the two parts being releasably engageable to form a mould having a rectangular bottom, side walls surrounding the bottom and an open top and defining the external shape of a block to be produced in the mould, and wherein the two parts form respectively diagonally opposed halves of the mould.

Preferably the two parts form a mould with a square bottom, and conveniently the two mould parts are substantially identical. Preferably the side wall has moulding surfaces shaped to produce in each side face of a moulded block a recess extending from the top to bottom edge and having side walls chamfered, preferably at substantially 45°.

In a preferred embodiment the two parts, after use in moulding a block, can be mutually withdrawn in a direction generally normal to the plane of engagement of the two parts, to release a block moulded therein.

A preferred embodiment further includes a core engageable between the two halves of the bottom for producing a hole through a moulded block. The core is desirably removable from the mould before separation of the two parts by withdrawal through the bottom of the mould.

In order that the invention may be more fully understood an embodiment in accordance therewith will now be described by way of example only with reference to the accompanying drawings in which:

Fig. 1 is a perspective view of a two-part mould for casting concrete blocks;

Fig. 2 is a front elevation of one part of the mould shown in Figure 1 and includes a core; and Fig. 3 is a block produced from the mould of Figures 1 and 2.

Referring to the drawings Figure 1 shows a two-part mould in which the two parts 1, 2 are engaged and form a mould having a generally square bottom 3, and a side wall comprising four mutually perpendicular side wall sections 4, 5, 6 and 7 surrounding the bottom.

The two parts 1, 2 are identical; and each forms a diagonally opposed half of the mould in its assembled form. The parts may be of glass fibre reinforced plastics or any other suitable material.

Each mould part has a wall formed by two generally mutually perpendicular wall sections (4, 7) (5, 6) which rise normally from a generally triangular bottom portion (8, 9). The bottoms each have a semi-circular cut away portion 10, 11 so that when the two parts 1, 2 are engaged (as shown) they form a circular opening, centrally of the bottom 3 for location of a core 30 (see Figure 2).

Part 2 is described in more detail below:

Since the two parts 1, 2 are identical the following description of part 2 is applicable, in all respects, to part 1.

Part 2 includes the wall formed by the two mutually perpendicular side wall sections (5, 6). In more detail the walls have a corner structure consisting of a corner panel 13 at the angle of the wall sections 5, 6: this panel lies generally parallel to the free edge of the bottom 9. The outer edges of corner panel 13 are connected along respective edges to panel sections 14, 15 lying at about 135° to the corner panel 13, i.e. about 45° to the free edge of bottom 9. The outer edges of panel sections 14, 15 are connected to panel sections 16, 17 which lie at about 135° to the adjacent panel sections 14, 15, i.e. about 45° to the corner panel 13 and substantially 45° to the free edge of bottom 9.

The outer ends of wall sections 5, 6 and 4, 7 are so constructed that when the two mould parts are mated (as shown) they together

form corner structures identical with that described above; and consequently when the two parts 1, 2 are engaged the four corner structures of the mould are identical.

5 Wall sections 5, 6 have central panels 19, 20 connecting the corner structure at the angle of the wall sections with the corresponding structures at the ends of the wall sections.

10 The outwardly facing edges of panels 13' and 13'' are formed with vertically extending ribs 21, 22: the ribs are tapered, becoming gradually thicker towards the bottom. Corresponding ribs 21', 22' are provided on mould part 1. The ribs of the two parts lie together when the two parts 1, 2 are engaged. The

15 mating surfaces of the ribs (not shown in Figure 1 but shown in Figure 2) are formed with cooperating buttons 24 and recesses 25 for accurately locating the two mould parts in use.

20 Two sleeves 26, 26' each having a tapered U-section are provided for sliding over the mated ribs 21', 22; 22', 21 for forcing the ribs together, thereby holding the two mould parts firmly in engagement.

25 Referring to Figure 2, this shows the frusto-conical core 30 in cross-section; the wider base 31 of the core is, in use, located in the central opening of the bottom of the moulding by bringing the two bottom portions 8, 9 into engagement around the base 31. The core is open at base 31 and has a central diametrically extending dividing partition 32. Usually the core is of thermoplastic material and may, for example, be formed by injection moulding.

30 In use: the mould core 30 is located in cut-away part 10 of mould part 2. The other mould part 1 is then mated with part 2 and the sleeves 26, 26' rammed down onto the ribs 21', 22 and 22', 21 thus firmly engaging the two parts and locating the core securely in the central opening of the base. A concrete mix is poured into the mould, tamped down and levelled. The mould is then inverted onto a flat surface and the core withdrawn through bottom 3. The sleeves are then removed and the two parts separated to release the cast blocks which has the form shown in Figure 3.

35 The configuration of the corner structures of the mould are such that after casting the two mould parts may be withdrawn in a direction normal to the plane of engagement of the two parts without damage to the portion of the casting formed in the corner structures.

40 The moulded blocks produced by the illustrated mould can be assembled in the form of pillars, the recesses 33 in the side faces of the blocks forming a continuous channel having chamfered sides extending up each side face of the pillar. The ends of walls can thereafter be built into the channels and pointed up the pillar in a conventional manner.

45 The holes 34 in the blocks form a central opening through the pillar; this enables the pillar to be constructed around strengthening

steel rods if desired, which may be located in a suitable foundation, and the central opening can thereafter be infilled in a conventional manner.

WHAT WE CLAIM IS:—

1. A two-part mould for casting concrete blocks, the two parts being releasably engageable to form a mould having a rectangular bottom, side walls surrounding the bottom and an open top and defining the external shape of a block to be produced in the mould, and wherein the two parts form respectively diagonally opposed halves of the mould.

2. A mould according to Claim 1, wherein the two parts form a mould having a substantially square bottom.

3. A mould according to Claim 1 or 2, wherein the two mould parts are substantially identical.

4. A mould according to any one of the preceding claims, including in at least one of said side walls a moulding surface shaped to produce in the corresponding side face of a moulded block a recess extending from the top to bottom edge and with chamfered side edges to said recess.

5. A mould according to Claim 4, wherein the moulding surface is shaped to produce a recess in which the side edges are chamfered at substantially 45°.

6. A mould according to Claim 4 or 5 wherein each side wall of each mould part has a said moulding surface.

7. A mould according to any one of the preceding claims, in which the mould parts are mutually withdrawable, after a moulding operation, in a direction generally normal to the plane of engagement of the two parts to release a block moulded therein.

8. A combination including a mould according to any preceding claim and a core piece engageable between the two halves of the bottom of the mould when the two parts are brought into engagement, for producing a hole through a moulded block.

9. A combination according to Claim 8, in which the two parts and the core are constructed so that after moulding the core is removable from the mould, before separation of the two parts, by withdrawal through the bottom of the mould.

10. A mould according to any one of the preceding claims, wherein the two mould parts have ribs, respective ribs of the two parts being located so as to form at least two external, tapered, rib pairs when the two mould parts are assembled, the mould further including sleeves slidable over the rib pairs thereby to force the ribs towards each other and to hold the two mould parts firmly in engagement.

11. A mould according to Claim 10, wherein the ribs have mating surfaces formed with

cooperating buttons and recesses for accurately locating the two mould parts when in use.

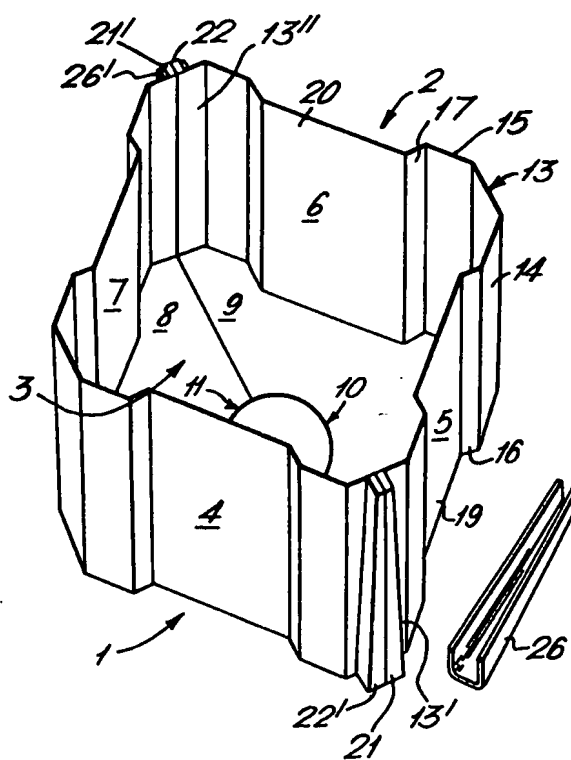
- 5 12. A two-part mould and core therefore, substantially as described herein with reference to the accompanying drawings.

13. A moulded block obtained by using a two-part mould or mould core according to any one of the preceding claims.

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FIG.1.



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COMPLETE SPECIFICATION

2 SHEETS

This drawing is a reproduction of
the Original on a reduced scale
Sheet 2

FIG.2.

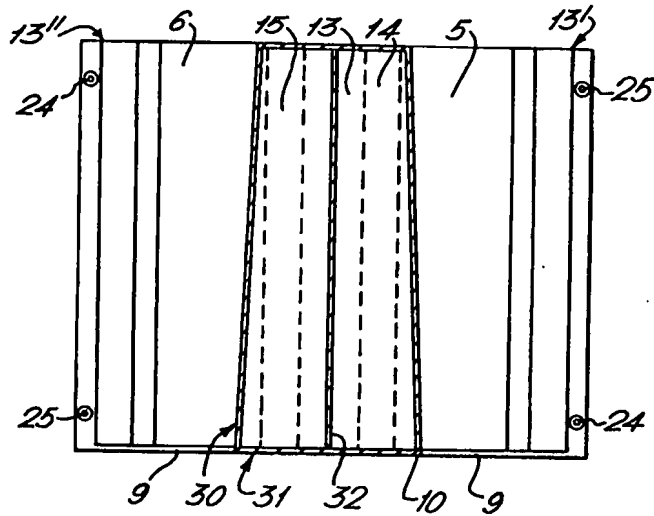


FIG.3.

